

STATEMENT OF WORK
Streambank and Shoreline Protection (580)
Wyoming

These deliverables apply to this individual practice. For other planned practice deliverables refer to those specific Statements of Work.

DESIGN

Deliverables

1. Design surveys
 - A. Requirement for Shoreline Protection
 - a. Topographic details of area
 - b. Location and extent of trees, willows, etc.
 - c. Length of section to be protected
 - d. Soils classification
 - e. Water surface elevations as needed
 - B. Requirements for Streambank Protection
 - a. Topographic and geomorphic details of area containing:
 - i. Cross section defining thalweg, water surface, bankfull, low berm/terrace and upper terrace elevations
 - iii. Profile defining thalweg, water surface, bankfull and low berm/terrace elevations
 - b. Location and extent of trees, willows, etc.
 - c. Length of section to be protected
 - d. Reach length required for stream type determination
 - e. Soils classification
 - f. Stream Classification Pebble Count
 - g. When needed, active bed sample/ riffle pebble count
 - h. When needed, bar sample gradation
2. Design documentation that will demonstrate that the criteria in NRCS practice standard have been met and are compatible with other planned and applied practices.
 - A. Requirement for both Shoreline and Streambank Protection
 - a. Practice purpose(s) as identified in the conservation plan.
 - b. List of required permits to be obtained by the client.
 - c. Impacts on adjacent properties and structures.
 - d. Compliance with NRCS national and state utility safety policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06).
 - e. List of facilitating practices
 - f. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. Protection requirements
 - ii. Method of protection
 - iii. Geology/Soil Mechanics
 - iv. Structural
 - v. Vegetation/Soil Bioengineering (see plant material references listed below for guidance)
 - vi. Records indicating NRCS obligations regarding State and Federal regulations have been met including wetland and flood plain regulations
 - vii. Quantity and quality of materials.
 - B. Additional Requirements for Streambank Protection.

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- a. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. Stream Type
 - ii. Stability determination (i.e. evolution stage or succession scenario)
 - iii. Water surface elevations for all required discharge conditions
 - iv. Minimum riparian setback
 - a) Method of exclusion/management (livestock/wildlife/human)
 - v. Hydrology/Hydraulics
 - a) Stream flow records
 - b) Recurrence intervals for the Bankfull and design discharge
 - c) Cross Section at Bankfull and design discharge
3. Written plans and specifications including sketches and drawings shall be provided to the client that adequately describes the requirements to install the practice and obtain necessary permits.
 - A. Requirement for both Shoreline and Streambank Protection
 - a. Overall plan view of project
 - i. Include areas of re-vegetation and/or protection
 - b. Typical cross section of protection
 - c. Location and details of appurtenances, such as culverts
 - d. Location and details of temporary benchmarks
 - e. Source of materials
 - f. Table of quantities
 - g. Location map
 - B. Additional Requirement for Streambank Protection
 - a. Project profile for length of proposed protection containing but not limited to
 - i. Thalweg, water surface, bankfull and low berm/terrace
 - ii. Slope values for Thalweg, water surface, bankfull and low berm/terrace, as needed.
 - b. Typical cross section depicting the Thalweg, water surface, bankfull and low berm/terrace elevation.
4. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32).
5. Operation and Maintenance Plan
6. Certifications that the design meets practice standard criteria and comply with applicable laws and regulations (NEM Subpart A, 505.03(b)(2)).
7. Design modifications during installation as required.

INSTALLATION

Deliverables

1. Pre Installation conference with client and contractor.
2. Verification that client has obtained required permits.
3. Staking and layout according to plans and specifications including applicable layout notes.
 - a. Establishment of temporary bench marks defined in plans.
 - b. Extent of area to be protected
 - c. Necessary cut or fill stakes
 - d. Location stake for appurtenant structures

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4. Installation inspection (according to inspection plan as appropriate).
 - a. Actual materials used.
 - b. Inspection records
 - c. Length of area protected
 - d. Cross section of area protected
 - e. Size and thickness of materials and bedding
 - f. Number, size, and spacing of structures.
5. Facilitate and implement required design modifications with client and original designer.
6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation.
7. Certification that the installation process and materials meets design and permit requirements.

CHECK OUT**Deliverables**

1. As-Built documentation.
 - a. Extent of practice units applied
 - b. Drawings
 - c. Final quantities
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits (NEM Subpart A, 505.03(c)(1)).
3. Progress reporting.

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - Streambank and Shoreline Protection, 580
- NRCS Field Office Technical Guide (eFOTG), Section 1, References, Plant Materials Technical Notice 3, Establishment of Permanent Vegetation
- NRCS Field Office Technical Guide (eFOTG), Section 1, References, Plant Materials Technical Notice 6, Reading Seed Packaging Labels and Calculating Seed Mixtures
- NRCS Field Office Technical Guide (eFOTG), Section 1, References, Plant Materials Technical Notice 9, Plant Materials for Conservation Buffers
- NRCS National Engineering Manual (NEM)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook